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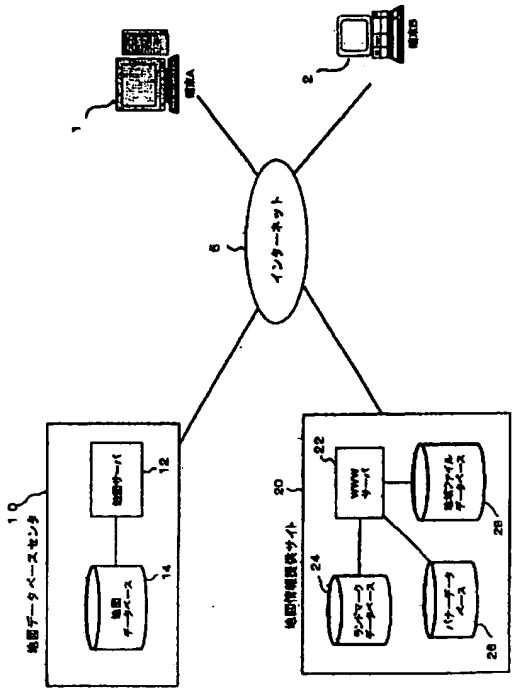
(54)【発明の名称】　地図情報提供システム及び方法

(57)【要約】

【課題】　地図情報と共に、ユーザの関心を引きつけ易く、高い宣伝効果を期待できる広告情報の表示を可能とするシステムを提供する。

【解決手段】　地図情報提供システムによれば、地理上の地域を特定するための位置情報と、当該地域と関連を有する広告情報との対応が広告情報データベースに記憶されている。ユーザが所望の場所の位置情報を端末から指定すると、地図情報送信手段は、ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する。また、広告情報送信手段は、前記広告情報データベースを参照して、前記位置情報に対応する広告情報を特定し、前記端末へ送信する。端末は、送信された地図情報及び広告情報を表示する。



【特許請求の範囲】
【請求項１】　地図データベースに蓄積された地図情報を、ネットワークを通じて端末に提供する地図情報提供システムにおいて、
地理上の地域を特定するための位置情報と、当該地域と関連を有する広告情報との対応を記憶する広告情報データベースと、
ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する地図情報送信手段と、
前記広告情報データベースを参照して、前記位置情報に対応する広告情報を特定し、前記端末へ送信する広告情報送信手段と、を備える地図情報提供システム。
【請求項２】　前記広告情報データベースは、前記地理上の地域を示す地域ファイルと、前記位置情報との対応関係を記憶した地域データベースを備えることを特徴とする請求項１に記載の地図情報提供システム。
【請求項３】　前記地域ファイルは対応する地域の広さに応じて複数の階層に分類され、前記広告情報データベースは前記複数の階層に属する地域ファイルごとに対応する広告情報を記憶している請求項２に記載の地図情報提供システム。
【請求項４】　前記広告情報送信手段は、前記端末上で前記広告情報を前記地図情報と同一画面上に表示することを指示する情報を前記端末へ送信する請求項１乃至３のいずれかに記載の地図情報提供システム。
【請求項５】　前記広告情報データベースに記憶される広告情報は、前記地域の産業に関連する広告情報、及び前記地域内に存在する店舗、施設に関連する広告情報のいずれかであることを特徴とする請求項１乃至４のいずれかに記載の地図情報提供システム。
【請求項６】　地図情報を蓄積した地図データベース及び広告情報を記憶する広告情報データベースを備える地図情報提供システムから、ネットワークを通じて端末へ地図情報を提供する方法において、
前記端末において、所望の場所の位置情報を指定する工程と、
ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する工程と、
前記広告情報データベースを参照し、前記位置情報に対応する地域と関連を有する広告情報を特定し、前記端末へ送信する工程と、
前記地図情報及び前記広告情報を受信し、前記端末上に表示する工程と、を備える方法。
【請求項７】　前記表示工程は、前記地図情報及び前記広告情報を同一画面上に表示する請求項６に記載の方法。
【発明の詳細な説明】
【０００１】
【発明の属する技術分野】本発明は、例えばインターネットを利用してデータベースに蓄積されている地図情報及び広告情報を提供する技術に関する。
【０００２】
【従来の技術】現在、インターネットプロトコルを使用したインターネット上には、WWW（World Wide Web）サーバにより世界中から多種多様な情報が提供されており、ユーザはインターネットに接続された端末を操作し、検索を行うことにより所望の情報を得ることができる。
【０００３】このようなインターネットを介して提供される情報サービスは多種多様に存在するが、その一つとして地図情報検索表示サービスがある。これは、地図データベースを備え、インターネットに接続されたWWWサーバにアクセスすることにより、所望の地図情報を取得して端末上に表示することができるサービスである。具体的には、ユーザが端末から住所、地名、又は駅名、若しくは各種施設名、店舗名などを入力すると、その場所及びその周辺の地図が画像情報として端末上に表示される。よって、ユーザは表示された地図情報を参照して、目的の駅、施設などがどこにあるのかを容易に認識できる。
【０００４】一方、地図情報検索サービスに限らず、インターネット上に接続された各種WWWサーバのホームページ、その他の画面には、一般的に「バナー」と呼ばれる広告情報（以下、「バナー広告」と呼ぶ。）が表示される場合がある。これは、WWWサーバを運営する企業や個人に対して、顧客（広告主）が広告料金を支払ってそのホームページに広告を表示するものであり、広告は画面上の任意の箇所に表示される。このようなバナー広告は上述の地図情報検索表示サービスにおいても行われており、例えば表示画面中の地図情報の近傍にバナー広告が表示される。
【０００５】地図情報検索表示サービスにおいて行われるバナー広告表示の形態の一例は以下のようなものである。ユーザ端末上に表示される、地図情報を含む画面中には広告表示部が設けられ、あるバナー広告が表示される。ユーザがその広告に関心を示し、広告表示部をクリックすると、地図情報検索表示サービスのWWWサーバ、又は広告表示に関するWWWサーバに蓄積されている当該広告内容に関するホームページのＵＲＬ（Uniform Resource Locator）が指定され、そのバナー広告の詳細を示すホームページが端末に表示される。
【０００６】
【発明が解決しようとする課題】しかし、この場合、バナー広告の内容は、ユーザが任意の検索により表示させた地図情報とは無関係である。よって、ユーザがその広告に興味を示し、広告表示部をクリックして自ら積極的にそのバナー広告のホームページを表示させない限り、宣伝広告効果はあまり期待できない。即ち、地図情報を

含む表示画面上にバナー広告を表示させる時、そのバナー広告が表示された地図情報又は地域と関連を有するものであれば、ユーザにとってもその広告を見る価値が高まるが、無関係であればユーザの関心は低くなる。

【０００７】本発明は以上の点に鑑みてなされたものであり、その課題は、地図情報と共に、ユーザの関心を引きつけ易く、高い宣伝効果を期待できる広告情報の表示を可能とするシステムを提供することにある。

【０００８】

【課題を解決するための手段】上記の課題を解決するため、請求項１記載の発明は、地図データベースに蓄積された地図情報を、ネットワークを通じて端末に提供する地図情報提供システムにおいて、地理上の地域を特定するための位置情報と、当該地域と関連を有する広告情報との対応を記憶する広告情報データベースと、ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する地図情報送信手段と、前記広告情報データベースを参照して、前記位置情報に対応する広告情報を特定し、前記端末へ送信する広告情報送信手段と、を備えるように構成する。

【０００９】上記のように構成された地図情報提供システムによれば、地理上の地域を特定するための位置情報と、当該地域と関連を有する広告情報との対応が広告情報データベースに記憶されている。ユーザが所望の場所の位置情報を端末から指定すると、地図情報送信手段は、ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する。また、広告情報送信手段は、前記広告情報データベースを参照して、前記位置情報に対応する広告情報を特定し、前記端末へ送信する。端末は、送信された地図情報及び広告情報を表示する。

【００１０】従って、当該地図情報提供システムを使用してユーザが所望の地図情報を端末上に表示させると、表示された地域に関連する広告情報が自動的に表示される。従って、ユーザが関心のある地域と関連する広告を提供することができ、宣伝効果が高まることが期待できる。

【００１１】請求項２に記載の発明は、請求項１に記載の地図情報提供システムにおいて、前記広告情報データベースは、前記地理上の地域を示す地域ファイルと、前記位置情報との対応関係を記憶した地域データベースを備えるように構成する。従って、データベース内のデータ記憶構成が単純化され、アクセスが迅速化される。

【００１２】請求項３に記載の発明は、請求項２に記載の地図情報提供システムにおいて、前記地域ファイルは対応する地域の広さに応じて複数の階層に分類され、前記広告情報データベースは前記複数の階層に属する地域ファイルごとに対応する広告情報を記憶している。従って、ユーザが選択した地域の広さに応じて適切な広告情報を提供することができる。

【００１３】請求項４に記載の発明は、請求項１乃至３のいずれかに記載の地図情報提供システムにおいて、前記広告情報送信手段は、前記端末上で前記広告情報を前記地図情報と同一画面上に表示することを指示する情報を前記端末へ送信するように構成する。従って、ユーザは検索した地図情報と同時に同一画面上で関連する広告情報を見ることができる。

【００１４】請求項５に記載の発明は、請求項１乃至４のいずれかに記載の地図情報提供システムにおいて、前記広告情報データベースに記憶される広告情報は、前記地域の産業に関連する広告情報、及び前記地域内に存在する店舗、施設に関連する広告情報のいずれかであるように構成する。従って、各地域ごとに有効な宣伝広告を行うことができる。

【００１５】請求項６に記載の発明は、地図情報を蓄積した地図データベース及び広告情報を記憶する広告情報データベースを備える地図情報提供システムから、ネットワークを通じて端末へ地図情報を提供する方法において、前記端末において、所望の場所の位置情報を指定する工程と、ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得して前記端末へ送信する工程と、前記広告情報データベースを参照し、前記位置情報に対応する地域に関連を有する広告情報を特定し、前記端末へ送信する工程と、前記地図情報及び前記広告情報を受信し、前記端末上に表示する工程と、を備えるように構成する。

【００１６】上記のように構成された方法によれば、ユーザが端末において所望の場所の位置情報を指定すると、ユーザが指定した位置情報に対応する地図情報を前記地図データベースから取得されて前記端末へ送信される。次に、前記広告情報データベースを参照して前記位置情報に対応する地域と関連を有する広告情報が特定され、前記端末へ送信される。そして、端末は前記地図情報及び前記広告情報を受信し、表示する。

【００１７】従って、当該地図情報提供システムを使用してユーザが所望の地図情報を端末上に表示させると、表示された地域に関連する広告情報が自動的に表示される。従って、ユーザが関心のある地域と関連する広告を提供することができ、宣伝効果が高まることが期待できる。

【００１８】請求項７に記載の発明は、請求項６に記載の方法において、前記表示工程は、前記地図情報及び前記広告情報を同一画面上に表示するように構成される。よって、従って、ユーザは検索した地図情報と同時に同一画面上で関連する広告情報を見ることができる。

【００１９】

【発明の実施の形態】本発明は、地図情報提供サービスによって取得した地図情報と共にバナー広告を表示する際に、その時に表示されている地図情報の地域に関連するバナー広告を自動的に表示することを特徴とする。地

図情報提供サービスにおいてユーザが自ら指定して表示させた地域はユーザが関心を持っている地域であるので、その地域に関連を有するバナー広告を表示すれば、高い宣伝効果が期待できる。以下、図面を参照して本発明の好適な実施の形態について説明する。

【００２０】［1］システム構成

図１に、本発明の実施形態にかかる地図情報提供システムの概略的構成を示す。図１において、地図データベースセンタ１０及び地図情報提供サイト２０がインターネット５に接続されている。さらに、ユーザ端末１がインターネット５に接続されている。

【００２１】ユーザ端末１は、WWWブラウザと呼ばれるアプリケーションプログラムを使用することによりWWWのサービスを受けることができる。図１の例では、ユーザ端末１はWWWブラウザを使用して地図情報提供サイト２０に接続し、そのホームページを閲覧することにより地図情報の提供サービスを受けることが可能となる。

【００２２】地図データベースセンタ１０は、インターネット上で地図情報提供サービスを実施するためのセンタであり、地図サーバ１２と地図データベース１４を備える。地図データベース１４は、地図上の位置情報（座標情報）、例えば、緯度及び経度の情報と、その位置情報に対応する地図情報の画像データを含んでいる。地図情報の画像データは、縮尺に応じて複数の階層構造に構成されている。即ち、日本全体の図、都道府県レベルの図というように、複数の縮尺の画像データが用意され、夫々にその画像データを特定する地域ファイル名が付されている。縮尺情報と地域ファイルとが対応付けされている。

【００２３】地図サーバ１２は、ユーザ端末からの指定、指示などに応じて対応する地図情報の画像データ（即ち、地域ファイル）を地図データベース１４から検索、取得し、インターネット５を介してユーザ端末１に送信する。また、地図サーバ１２は、WWWサーバ２２からの要求に応じて地図情報の検索、送信も行う。

【００２４】地図情報提供サイト２０はWWWサイトである。WWWは、ハイパーテキストを使用して文字情報、画像情報、音声情報などのマルチメディア情報を提供するインターネット上の広域情報システムである。WWWサーバはWWWによりリンクされたインターネット上のサーバであり、WWWによりサービスを行うサイトをWWWサイトという。地図情報提供サイト２０は、WWWサーバ２２、ランドマークデータベース２４、バナーデータベース２６、及び地域ファイルデータベース２８を備える。

【００２５】ランドマークデータベース２４は、ある特定の住所、駅名、ランドマーク（施設、遊技場、遊園地、店舗など）と、それらの位置情報との対応を示すデータを記憶している。よって、WWWサーバ２２は、ランドマークデータベース２４にアクセスすることにより、特定の位置情報からそれに対応する住所、駅名、ランドマークを特定することができる。また、逆に、特定の住所、駅名、ランドマーク名などから対応する位置情報を取得することもできる。

【００２６】地域ファイルデータベース２８は、各地域ファイルと位置情報（座標情報）との対応を記憶している。ここで、「地域」とは、特定の場所の地理的な区分であり、地域ファイルは大区分から小区分までの複数の階層構造に分類して定められている。図３に地域ファイルの階層的区分の例を示す。なお、図３の例は、東京都大田区蒲田駅周辺に関連する地域ファイルの区分のみを示すものである。図３において、「レベル」は各地域ファイルの階層上の位を示す。この例では、レベル１が最上位の階層であり、最も大きな区分である。レベル２、レベル３、レベル４となるに従って小さい区分に対応する。図３の例には示していないが、レベル１に属する地域ファイルは、関東の他に、関西、東北、北陸などがある。同様に、レベル２には東京、埼玉、千葉などの都道府県程度の地域ファイルが含まれ、レベル３には区、市町村程度の地域ファイルが含まれる。レベル４は最も細かい区分であり、都市名、駅名程度の地域ファイルが含まれる。この各地域ファイルに対応して前述の地図画像データが用意されている。つまり、レベル１の地域ファイル「関東」、「関西」に対応して関東、関西の地図画像が用意され、レベル３の地域ファイル「大田区」、「千代田区」に対応して大田区、千代田区の画像データが用意されている。

【００２７】ここで例示した東京都大田区蒲田駅周辺に関しては、レベル１からレベル４までの全ての階層において対応する地域ファイルが定められ、地域ファイルデータベース２８内にその地域ファイルと位置情報との対応が記憶されている。なお、位置情報によっては、対応するレベル４の地域ファイルが存在しない場合がある。即ち、駅、繁華街周辺などについては詳しい地図情報が用意されているが、農地、山林などでは詳細な地図情報は一般的に用意されていない。よって、このような場所を示す位置情報には対応するレベル４の（場合によってはレベル３も）地域ファイル及びその地図画像データが存在しない場合がある。

【００２８】地域ファイルデータベース２８には、上記の各地域ファイルに対応する位置情報（座標情報）が記憶されている。即ち、各地域ファイル名に対応する位置情報、例えば北緯○○度乃至○○度、東経○○度乃至○○度、という情報が記憶されている。よって、位置情報が決定すれば、地域ファイルデータベース２８を参照することにより、その位置情報に対応する地域ファイル（即ち、地図画像データ）を特定することができる。図３の例によれば、蒲田駅付近の位置情報（北緯、東経）を指定することにより、各レベルにおける関連する地域

ファイルを特定することができる。なお、各地域ファイルと対応付けされる位置情報の限定の方法としては、多角形の複数の頂点に対応する緯度及び経度により特定の地域を特定し、これをある地域ファイルと対応付けることができる。また、ある一点を中心とする半径○○ｋｍの地域という方法で位置情報を特定し、これをある地域ファイルと対応付けることもできる。

【００２９】バナーデータベース２６は、上述の地域ファイルとそれに対応するバナー広告情報（広告情報）との対応を記憶している。バナーデータベース２６中の情報の例を図４に示す。なお、図４の例も蒲田駅周辺に限定した情報を示している。図４に示すように、バナーデータベース２６には、各地域ファイル、その地域ファイルのレベル、及びその地域ファイルに対して決定されたバナー広告情報の対応が記憶されている。即ち、バナーデータベース２６は、ユーザにより各地域ファイルが選択され、対応する地図画像データがユーザ端末上に表示された時に、同時に表示すべきバナー広告情報を示す。図４の例で、例えば地図情報提供サービスによって、ユーザが大田区の地図情報（地域ファイル「大田区」に対応する）をユーザ端末上に表示した場合には同時に広告Ｂが表示され、蒲田の地図情報（地域ファイル「蒲田」に対応する）をユーザ端末１上に表示した場合には広告Ｄが表示される。

【００３０】各地域ファイルに対応して用意されるバナー広告は、その地域と関連を有するバナー広告である。具体的には、その地域の産業などに関連するバナー広告、その地域内に存在する店舗、施設などに関連するバナー広告などが挙げられる。各地域の産業などに関連するバナー広告としては、その地域の名産品、その地域の主要産業による生産物、サービスなどが含まれ、例えば地域ファイル「青森」に対してリンゴのバナー広告、地域ファイル「札幌」に対してラーメン店のバナー広告などが挙げられる。また、その地域内に存在する店舗、施設に関連するバナー広告としては、その地域内にある飲食店、百貨店、遊技施設、スポーツ施設などのバナー広告が挙げられる。

【００３１】本実施形態においては、各地域ファイルに対して対応付けされるバナー広告は一つであるとし、バナーデータベース２６中に記憶される地域ファイル名とバナー広告とは１対１に対応することとする。こうすることにより、ユーザがある位置情報を指定し、対応する地域ファイルが特定されると、その地域ファイルの地図情報と共に表示されるバナー広告が一つに決定される。よって、WWWサーバ２２による処理を単純化することができる。

【００３２】但し、各地域ファイルに対応する広告を複数用意し、時間帯に応じて変更して表示するようにすることもできる。例えば、ある地域ファイルに対して、ある百貨店の営業時間帯はその百貨店のバナー広告を表示し、その営業終了後の時間帯は別の飲食店の広告を表示するようにデータベース内の対応を決定することができる。また、同様に、季節、曜日などに応じて一つの地域ファイルに対応するバナー広告を変更することもできる。バナーデータベース２６内の地域ファイルとバナー広告との対応付けは、当該地図情報提供サービスの提供企業が広告主の要望に応じて決定する。また、地図情報提供サービスにおいてユーザ端末に表示される画面中に複数の広告表示部を用意した場合には、各地域に対して複数のバナー広告を対応付けし、同時に複数のバナー広告を表示することもできる。

【００３３】［２］地図情報提供動作

次に、地図情報提供動作について、図１乃至６を参照して説明する。図２は、地図情報の提供動作を示すフローチャートであり、図５乃び図６は、各段階における地図表示画面の例である。以下、ユーザ端末１のユーザが地図情報提供サイトに接続して、地図情報を取得する場合を例にとって説明する。

【００３４】先ず、ユーザは端末１のWWWブラウザを使用して、地図情報提供サイトのＵＲＬを指定する（ステップＳ２）。ＵＲＬとは、WWW上の特定のリンク先を指定するアドレス情報である。これにより、端末１は、インターネット５を介して地図情報提供サイト２０のWWWサーバ２２に接続する。

【００３５】これに応答し、WWWサーバ２２は地図情報提供サイトのホームページのＨＴＭＬ（Hypertext Markup Language）テキストを端末１に送る。ＨＴＭＬテキストとは、ＨＴＭＬと呼ばれる言語で記述されたテキストファイルであり、関連付けされた画像情報、音声情報などの保存先の情報を含めることができる。端末１のWWWブラウザは、このＨＴＭＬテキストを受信し、端末１上に表示する（ステップＳ４）。

【００３６】図５に、こうして表示される当該ホームページの初期画面の例を示す。図５において、表示画面の中央には地図表示部３０があり、そこに地図画像データが表示される。地図表示部３０の上にはバナー広告表示部４０がある。なお、初期画面においては、ユーザによる地図情報の指定が行われていないので、バナー広告表示部４０内には特定の地域と関連付けのなされていないバナー広告、または広告以外のメッセージなどを表示することとする。

【００３７】地図表示部３０の直ぐ下には、縮尺指定部３２があり、これが地図表示部３０内に表示されている地図の縮尺（スケール）を示している。縮尺指定部３２内の各ボタン（この例では１１段階）は異なる縮尺に対応している。図５の例では、最も大きい（左側の日本地図マークに近い）縮尺で地図の表示がなされている。表示された地図画像を拡大したい場合には、縮尺指定部３２中の右寄り（“street”に近い）のボタンをクリックすると、縮尺の小さい地図画像が表示される。

【００３８】縮尺指定部３２の左側には、スクロール部３４が表示される。スクロール部３４は、現在表示されている地図の周辺部を表示したい場合に使用され、現在の表示位置を中心として８方向へ向けた矢印が表示されている。例えば、ユーザがスクロール部３４内の上向きの矢印をクリックすると、現在表示されている場所の直ぐ北に位置する周辺部の地図が表示される。即ち、クリックされた位置が表示画像の中心となるように地図情報の表示が変更される。

【００３９】縮尺指定部３２の下には、検索したい場所を指定又は入力するための入力欄３６が表示される。入力欄３６の左側には、「住所一覧」、「駅一覧」及び「ランドマーク一覧」のボタンが表示されており、これらをクリックすることにより住所、駅名、ランドマーク名の候補一覧が表示される、ユーザはそれらの中から所望の候補を選択することによりその場所の地図画像を表示させることができる。また、入力欄３６の右側には住所、駅名、ランドマーク名の入力ボックスが表示され、ユーザは所望の住所、駅名などをキーボードを使用して直接入力することができる。例えば、ユーザが入力欄３６の駅名入力ボックス内に「蒲田駅」と入力すると、図６に示すように蒲田駅を中心とする地図画像が地図表示部３０内に表示される。なお、入力欄３６の右側には種々の特殊機能ボタンが表示されている。

【００４０】図５のように地図情報提供サイトのホームページが表示された状態で、ユーザは表示させたい目的地を指定、入力する。この指定は、入力欄３６の左側の一覧から候補を指定することにより行っても良く、入力ボックス内に、駅名、住所などを直接タイプ入力して行ってもよい。こうして指定された目的地情報は、端末１からインターネット５を介してWWWサーバ２２へ送られる（ステップＳ６）。これと同時に、現在選択されている縮尺情報もWWWサーバ２２へ送られる。

【００４１】WWWサーバ２２は、この情報を受け取り、ランドマークデータベース２４を参照して当該目的地に対応する位置情報（座標情報）を取得する。また、取得した位置情報に基づき、地域ファイルデータベース２８を参照して当該位置情報に対応する地域ファイルを特定する。次にバナーデータベース２６を参照して当該地域ファイルに対応するバナー広告を特定する。

【００４２】今、ユーザが入力欄３６に「蒲田駅」と入力して蒲田駅周辺の地図情報を検索すると、WWWサーバ２２は蒲田駅の位置情報を取得し、これに基づいて地域ファイルデータベース２８を参照して地域ファイル「蒲田」を特定する。ここで、現在の位置情報が地域ファイルデータベース２８中の複数のレベルの地域ファイルに属する場合、レベルの最も低い（レベル数の大きい）地域に対応する広告を、表示すべきバナー広告として決定する。この例では、指定された位置情報は蒲田駅のものであり、図３に示す「関東」、「東京」、「大田区」、「蒲田」の全ての地域ファイルに対応することになる。この場合、WWWサーバ２２は、レベルの最も低い地域ファイル「蒲田」を現在の地域として決定する。この処理により、指定された位置情報が複数の地域ファイルに対応する場合、最も小さい区分について用意されたバナー広告が優先して表示されることになる。ユーザが蒲田駅を指定して地図情報を検索した場合、同時に表示されるバナー情報としては、大田区全体や東京都全体に関する広告よりも蒲田駅に関連する広告の方が好ましい。従って、位置情報が複数の地域に属する場合には、レベルの最も低い地域の広告情報を優先的に表示するように構成する。

【００４３】これに対して、例えばユーザが大田区内の他の場所（例えば住宅街など）を指定した場合、その位置情報は「関東」、「東京」、「大田区」の各地域ファイルに対応するが、レベル４には対応する地域ファイルが存在しないことがある。このような場合、WWWサーバ２２は前述のように低いレベルから順に対応する地域ファイルを特定する、よって、WWWサーバ２２は地域ファイルデータベース２８を参照して地域ファイル「大田区」を特定し、さらにバナーデータベース２６を参照してこれに対応する広告Ｃを決定する。

【００４４】また、ユーザが入力欄を使用して「大田区」、「東京都」などと指定した場合には、それぞれ対応するレベルの地域ファイルが特定され、それと関連付けられた広告Ｃ、広告Ｂが表示されることになる。

【００４５】さて、蒲田駅の例に戻ると、WWWサーバ２２は次にバナーデータベース２６を参照して、地域ファイル「蒲田」に対応する広告Ｄを決定する。そして、WWWサーバ２２は、上記位置情報及び広告Ｄを示すバナー広告指定情報を含むＨＴＭＬテキストを作成して端末１へ送信する（ステップＳ８）。このＨＴＭＬテキストには、さらにそれを受け取った端末１がアクセスすべきサーバ名（即ち、地図サーバ１２）、現在選択されている縮尺に応じて選択される地域ファイル名、端末１上に表示すべき文、バナーデータベース２６から呼び出すべきバナー広告指定情報などが含まれている。

【００４６】端末１のWWWブラウザは、このＨＴＭＬテキストを受け取り、それに含まれる文を表示する。また、当該ＨＴＭＬテキスト中に記述された地図サーバ１２へ地域ファイル名、位置情報、サイズ情報、縮尺情報などの情報を送る（ステップＳ１０）。地図サーバ１２は、地図データベース１４にアクセスし、縮尺情報及び位置情報により特定される地域ファイルの画像データのうち、位置情報を中心とし、サイズ情報により決定される範囲に対応する画像データを取得し、これを地図画像データ（ＧＩＦデータ）として端末１へ送信する。

【００４７】また、端末１のWWWブラウザは同時にバナーデータベース２６にアクセスし、ＨＴＭＬテキスト中に記述されたバナー広告指定情報に対応するバナー広

告画像データを取得してユーザ端末に送る（ステップＳ１２）。

【００４８】端末１は、地図サーバ１２から送信された地図画像データを、先にWWWサーバ２２から送信されたＨＴＭＬテキストで指定された表示個所に表示する。また、同時に、バナーデータベース２６から送信されたバナー広告画像データを図６に示すようにバナー広告表示部４０内に表示する（ステップＳ１４）。こうして、ユーザが指定した目的地の地図画像データが端末１の地図表示部３０内に表示され、その地域に関連するバナー広告がバナー広告表示部４０内に表示される。

【００４９】なお、ユーザの入力欄３６への再指定、再入力により目的地が変更された場合は、ステップＳ６乃至Ｓ１４の処理を変更後の位置情報などに基づいて繰返して地図及びバナー広告表示の更新を行う。

【００５０】また、地図画像が表示された状態で、縮尺の変更、表示位置の変更などがあった場合も、処理はステップＳ６へ戻り、変更後の位置情報、縮尺情報などをWWWサーバ２２へ送信する。以後、WWWサーバ２２、地図サーバ１２及び端末１は変更後の情報に基づいて同様の処理を行い、地図及びバナー広告表示の変更を行う。

【００５１】例えば、ユーザが縮尺指定部３２を操作することにより縮尺情報が変更された場合は、地図サーバ１２がアクセスすべき地図ファイルが変更されるか、あるいは同一の地図ファイルのうち端末１へ送信される地図画像データの範囲が変更される。一方、ユーザが地図表示部３０内に表示された地図上で関心のある場所をクリックすると、その場所の位置情報が送信され、地図サーバ１２はその場所を中心とする地図画像データを端末１に送信する。その結果、地図表示部３０内の地図は、ユーザがクリックした場所を中心とする表示に変更される。

【００５２】また、こうして位置情報が変更された場合、WWWサーバ２２は地域ファイルデータベース２８を参照し、その位置情報の変更が地域ファイルの変更を伴うか否かを判断する。地域ファイルの変更を伴う場合には、バナーデータベース２６を参照し、変更後の地域ファイルに対応するバナー広告指定情報を取得する。あとは、ステップＳ１２及びＳ１４に従って変更後のバナー広告指定情報を端末１に送信し、バナーデータベース２６からバナー広告画像データを取得してバナー広告表示部４０内に表示する。

【００５３】なお、前述の説明において、地図サーバ１２は地図ファイルをそのファイル名によって直接指定するようにしたが、地図サーバ１２の地図ファイルは独自の管理体系に従って構築されるようにしてもよい。その場合には、地図ファイル名を直接指定するのに代えて、WWWサーバとサーバ上で動くプログラムとのインターフェースを果たすＣＧＩ（Common Gateway Interface）を利用して地図ファイルをアクセスする。例えば、ステップＳ１０では、地図サーバ１２に対して地図表示用ＣＧＩ名を送るようにする。

【００５４】以上説明したように、本発明によれば、地図情報提供サービスにおいて、ユーザが自ら指定して検索した場所の地図情報に加え、その場所に関連するバナー広告情報が表示される。従って、ユーザは、現在関心のある場所と関連のある広告情報を自動的に得ることができる。また、広告主としても、より関心のあるユーザに対して広告を提供することができるので、宣伝広告効果が高まることが期待できる。

【００５５】

【発明の効果】以上説明したように、請求項１及び６に記載の発明によれば、当該地図情報提供システムを使用してユーザが所望の地図情報を端末上に表示させると、表示された地域に関連する広告情報が自動的に表示される。従って、ユーザが関心のある地域と関連する広告を提供することができ、宣伝効果が高まることが期待できる。

【００５６】請求項２に記載の発明によれば、データベース内のデータ記憶構成が単純化され、アクセスが迅速化される。

【００５７】請求項３に記載の発明によれば、ユーザが選択した地域の広さに応じて適切な広告情報を提供することができる。

【００５８】請求項４及び７に記載の発明によれば、ユーザは検索した地図情報と同時に同一画面上で関連する広告情報を見ることができる。

【００５９】請求項５に記載の発明によれば、各地域ごとに有効な宣伝広告を行うことができる。

【図面の簡単な説明】

【図１】本発明の実施形態にかかる電子メールシステムの概略的構成を示すブロック部である。

【図２】地域ファイル内の記憶データ例を示す図である。

【図３】バナーデータベース内の記憶データ例を示す図である。

【図４】地図情報の提供動作を示すフローチャートである。

【図５】地図情報提供サイトの表示画面の例を示す図である。

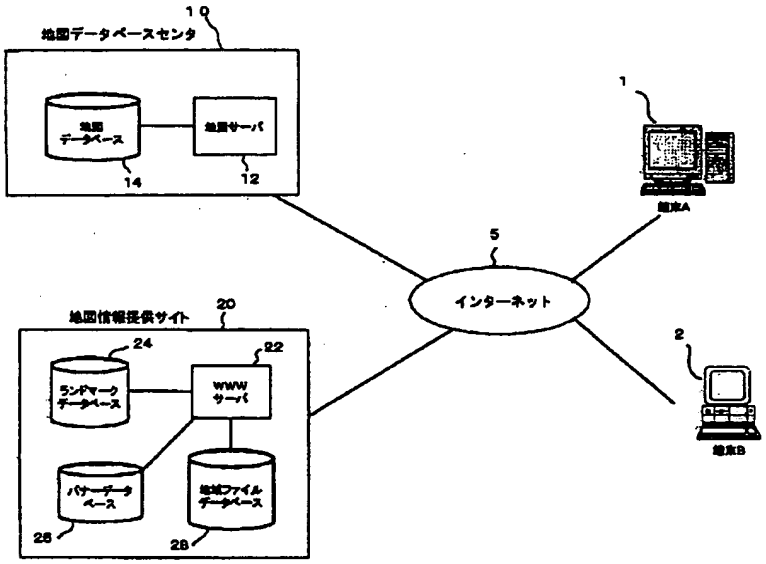
【図６】地図情報提供サイトの表示画面の他の例を示す図である。

【符号の説明】

１…端末
５…インターネット
１０…地図データベースセンタ
１２…地図サーバ
１４…地図データベース
２０…地図情報提供サイト

２２…WWWサーバ
２４…ランドマークデータベース
２６…バナーデータベース
２８…地域ファイルデータベース
３０…地図表示部
３２…縮尺指定部
３４…スクロール部
３６…入力欄
４０…バナー広告表示部

【図１】



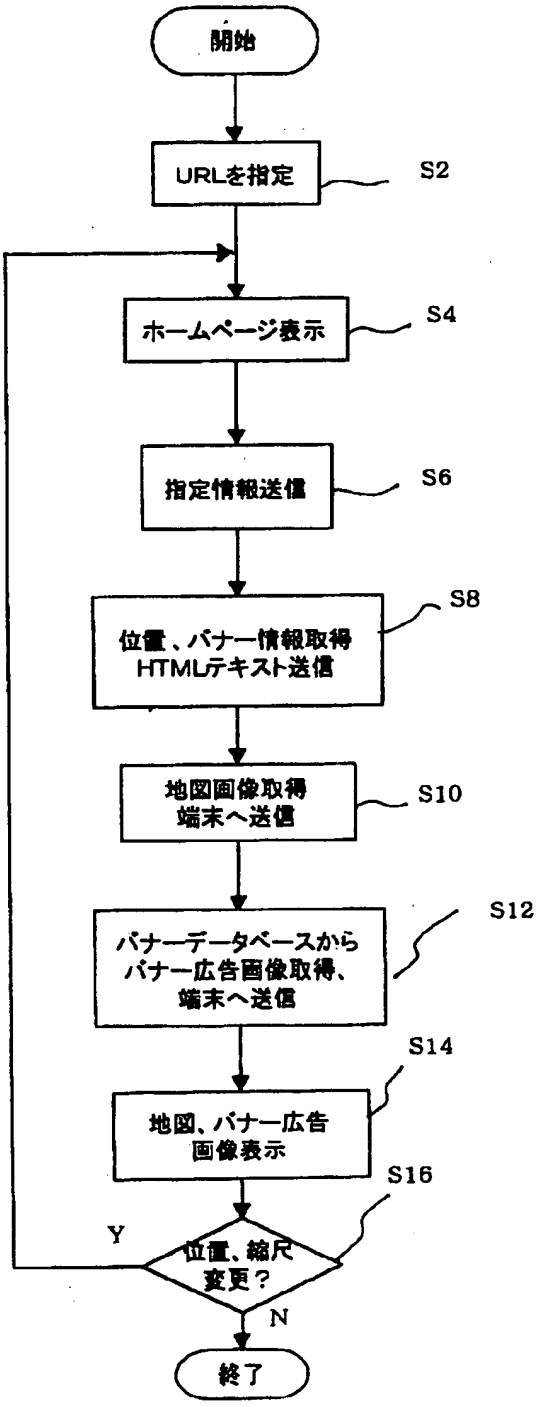
【図３】

レベル	地域ファイル	位置情報
1	関東	北緯○○－○○度、東経○○－○○度
2	東京	北緯○○－○○度、東経○○－○○度
3	大田区	北緯○○－○○度、東経○○－○○度
4	蒲田	北緯○○度、東経○○度から半径△ｋｍ以内

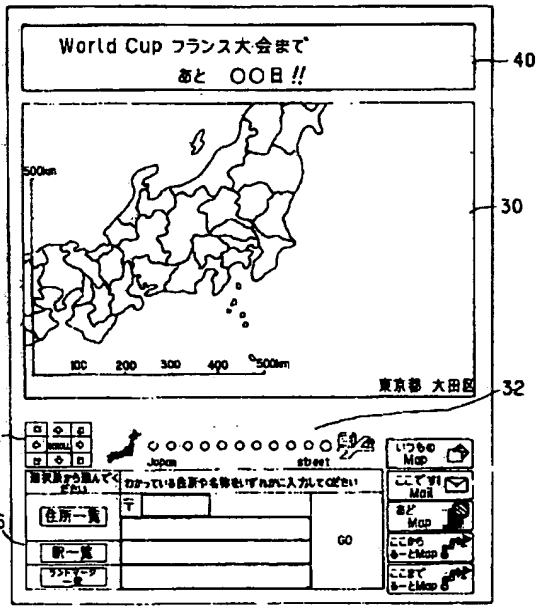
【図４】

レベル	地域ファイル	バナー広告
1	関東	広告Ａ
2	東京	広告Ｂ
3	大田区	広告Ｃ
4	蒲田	広告Ｄ

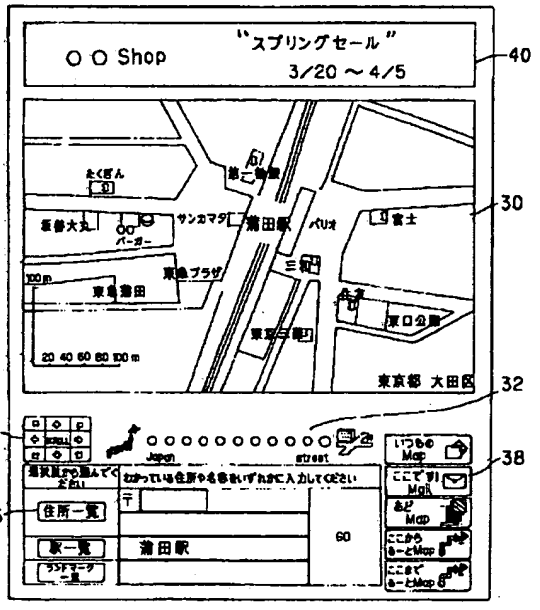
【図２】


開始
URLを指定
S2
ホームページ表示
S4
指定情報送信
S6
位置、バナー情報取得
HTMLテキスト送信
S8
地図画像取得
端末へ送信
S10
バナーデータベースから
バナー広告画像取得、
端末へ送信
S12
地図、バナー広告
画像表示
S14
位置、縮尺
変更？
S16
Y
N
終了

【図５】


World Cup フランス大会まで
あと ○○日!!
40
30
32
34
36
東京都 大田区
住所一覧
駅一覧
GO

【図６】


○○ Shop
"スプリングセール"
3/20 ～ 4/5
40
30
32
34
36
38
東京都 大田区
住所一覧
駅一覧
蒲田駅
GO

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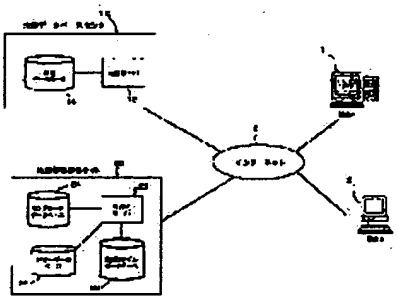
KONO KAZUTSUGU

(54) MAP INFORMATION PROVIDING SYSTEM AND ITS METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To display advertizing information, which attracts user's interest and is expected to be effective for advertizing, with map information by specifying advertizing information corresponding to positional information by referring to map information corresponding to positional information designated by the user and an advertizing information data base.



SOLUTION: When the user designates and inputs a destination desired to display, information on this destination is sent to a WWW server 22 from a terminal 1 through the internet 5. The server 22 receives information on this destination and refers to a land mark data base 24 to obtain positional information corresponding to the destination. In addition, based on obtained positional information, a local area file corresponding to positional information is specified by referring to a local file data base 28. Next, banner advertizing corresponding to this local area file is specified by referring to a banner data base 26. Then, an HTML text including positional information and banner advertizing designated information showing advertizing is prepared to transmit to the terminal 1.

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CLAIMS

[Claim(s)]
[Claim 1] In the map system to offer information which provides a terminal with the map information accumulated in the map database through a network The advertising information database which memorizes correspondence with the positional information for specifying the area on geography, and the advertising information which has the area concerned and relation, A map information transmitting means to acquire the map information corresponding to the positional information specified by a user from said map database, and to transmit to said terminal, A map system to offer information equipped with an advertising information transmitting means to specify the advertising information corresponding to said positional information, and to transmit to said terminal with reference to said advertising information database.
[Claim 2] Said advertising information database is a map system to offer information according to claim 1 characterized by having the local database which remembered correspondence relation with said positional information to be the local file which shows the area on said geography.
[Claim 3] It is the map system to offer information according to claim 2 which said local file was classified into two or more hierarchies according to the corresponding size of an area, and has memorized the advertising information to which said advertising information database corresponds for every area file belonging to said two or more hierarchies.
[Claim 4] Said advertising information transmitting means is a map system to offer information according to claim 1 to 3 which transmits the information which directs to display said advertising information on the same screen as said map information on said terminal to said terminal.
[Claim 5] The advertising information memorized by said advertising information database is a map system to offer information according to claim 1 to 4 characterized by being either of the advertising information relevant to the advertising information relevant to the industry of said area and the store which exists in said area, and a facility.
[Claim 6] In the approach of offering map information to a terminal through a network from a map system to offer information equipped with the advertising information database which memorizes the map database and advertising information which accumulated map information The process which specifies the positional information of a desired location in said terminal, and the process which acquires the map information corresponding to the positional information specified by a user from said map database, and is transmitted to said terminal, An approach equipped with the process which specifies the advertising information which has the area and relation corresponding to said positional information with reference to said advertising information database, and is transmitted to said terminal, and the process which receives said map information and said advertising information, and is displayed on said terminal.
[Claim 7] Said display process is the approach according to claim 6 of displaying said map information and said advertising information on the same screen.

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the technique of offering the map information and advertising information which are accumulated in the database using the Internet.
[0002]
[Description of the Prior Art] Now, on the Internet which used Internet Protocol, various information is offered by the WWW (World Wide Web) server from all over the world, and a user can operate the terminal connected to the Internet and can acquire the information on desired by searching.
[0003] Although the data utility offered through such the Internet exists variously, there is map information retrieval display service as one of them. This is the service which can acquire the map information on desired and can be displayed on a terminal by having a map database and accessing the WWW server connected to the Internet. If a user inputs the address, the name of a place, a name of the station or various facility names, a store name, etc. from a terminal, specifically, the location and the map of the circumference of it will be displayed on a terminal as image information. Therefore, a user can recognize easily where the target station, a facility, etc. are with reference to the displayed map information.
[0004] On the other hand, the advertising information (it is hereafter called "banner advertising".) generally called a "banner" may be displayed on the homepage of not only a map information search service but the various WWW servers connected on the Internet, and other screens. To the company and individual who manage a WWW server, a customer (advertiser) pays ad rates, this displays an advertisement on the homepage, and an advertisement is displayed on the part of the arbitration on a screen. Such banner advertising is performed also in above-mentioned map information retrieval display service, for example, banner advertising is displayed near the map information in a display screen.
[0005] An example of the gestalt of the banner-advertising display performed in map information retrieval display service is as follows. An advertising display is prepared all over a screen including the map information displayed on a user terminal, and a certain banner advertising is displayed. If a user shows an interest to the advertisement and clicks an advertising display, URL (Uniform Resource Locator) of the homepage about the advertising contents concerned accumulated in the WWW server of map information retrieval display service or the WWW server about an advertising display will be specified, and the homepage which shows the detail of the banner advertising will be displayed on a terminal.
[0006]
[Problem(s) to be Solved by the Invention] However, it is unrelated to the map information on which the user displayed the contents of banner advertising by retrieval of arbitration in this case. Therefore, unless a user shows interest to the advertisement, clicks an advertising display and displays the homepage of the banner advertising positively himself, an advertisement effect of advertising is seldom expectable. That is, if it has the map information or the area where the banner advertising was displayed, and relation when displaying banner advertising on a display screen including map information, the

value of seeing the advertisement also for a user will increase, but a user's interest will become low if unrelated.

[0007] This invention is made in view of the above point, and the technical problem tends to draw a user's interest with map information, and is to offer the system which enables presenting of the advertising information which can expect a high propaganda effect.

[0008]

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 In the map system to offer information which provides a terminal with the map information accumulated in the map database through a network The advertising information database which memorizes correspondence with the positional information for specifying the area on geography, and the advertising information which has the area concerned and relation, A map information transmitting means to acquire the map information corresponding to the positional information specified by a user from said map database, and to transmit to said terminal, With reference to said advertising information database, the advertising information corresponding to said positional information is specified, and it constitutes so that it may have an advertising information transmitting means to transmit to said terminal.

[0009] According to the map system to offer information constituted as mentioned above, correspondence with the positional information for specifying the area on geography and the advertising information which has the area concerned and relation is memorized by the advertising information database. If a user specifies the positional information of a desired location from a terminal, a map information transmitting means will acquire the map information corresponding to the positional information specified by a user from said map database, and will transmit it to said terminal. Moreover, with reference to said advertising information database, an advertising information transmitting means specifies the advertising information corresponding to said positional information, and transmits it to said terminal. A terminal displays the map information and advertising information which were transmitted.

[0010] Therefore, if a user displays the map information on desired on a terminal using the map system to offer information concerned, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.

[0011] In a map system to offer information according to claim 1, invention according to claim 2 constitutes said advertising information database so that it may have the local database which remembered correspondence relation with said positional information to be the local file which shows the area on said geography. Therefore, the data storage configuration in a database is simplified and access is quickened.

[0012] Said local file was classified into two or more hierarchies according to the size of the area where invention according to claim 3 corresponds in a map system to offer information according to claim 2, and said advertising information database has memorized the advertising information which corresponds for every area file belonging to said two or more hierarchies. Therefore, suitable advertising information can be offered according to the size of the area which the user chose.

[0013] In a map system to offer information according to claim 1 to 3, invention according to claim 4 constitutes said advertising information transmitting means so that the information which directs to display said advertising information on the same screen as said map information on said terminal may be transmitted to said terminal. Therefore, a user can see the advertising information relevant to the map information and coincidence which were searched on the same screen.

[0014] In a map system to offer information according to claim 1 to 4, invention according to claim 5 constitutes the advertising information memorized by said advertising information database so that it may be either of the advertising information relevant to the advertising information relevant to the industry of said area and the store which exists in said area, and a facility. Therefore, an effective advertisement advertisement can be performed for every every place region.

[0015] In the approach of offering map information to a terminal through a network from a map system

to offer information equipped with the advertising information database which memorizes the map database and advertising information that invention according to claim 6 accumulated map information The process which specifies the positional information of a desired location in said terminal, and the process which acquires the map information corresponding to the positional information specified by a user from said map database, and is transmitted to said terminal, With reference to said advertising information database, the advertising information which has relation is specified as the area corresponding to said positional information, and it constitutes so that it may have the process transmitted to said terminal, and the process which receives said map information and said advertising information, and is displayed on said terminal.

[0016] According to the approach constituted as mentioned above, if a user specifies the positional information of a desired location in a terminal, the map information corresponding to the positional information specified by a user will be acquired from said map database, and it will be transmitted to said terminal. Next, the advertising information which has the area and relation corresponding to said positional information with reference to said advertising information database is specified, and it is transmitted to said terminal. And a terminal receives and displays said map information and said advertising information.

[0017] Therefore, if a user displays the map information on desired on a terminal using the map system to offer information concerned, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.

[0018] Said display process is constituted so that invention according to claim 7 may display said map information and said advertising information on the same screen in an approach according to claim 6. Therefore, it can follow and a user can see the advertising information relevant to the map information and coincidence which were searched on the same screen.

[0019]

[Embodiment of the Invention] In case this invention displays banner advertising with the map information acquired by map communications service, it is characterized by displaying automatically banner advertising relevant to the area of the map information currently then displayed. Since the area which the user specified himself and displayed in map communications service is an area in which the user is interested, if banner advertising which has relation is displayed on the area, a high propaganda effect is expectable. Hereafter, the gestalt of suitable operation of this invention is explained with reference to a drawing.

[0020] [1] The rough configuration of the map system to offer information applied to the operation gestalt of this invention at system configuration drawing 1 is shown. In drawing 1 , the map database center 10 and the map information offer site 20 are connected to the Internet 5. Furthermore, the user terminal 1 is connected to the Internet 5.

[0021] A user terminal 1 can receive service of WWW by using the application program called a WWW browser. In the example of drawing 1 , a user terminal 1 is connected to the map information offer site 20 using a WWW browser, and it becomes possible by perusing the homepage to receive offer service of map information.

[0022] The map database center 10 is a center for carrying out map communications service on the Internet, and is equipped with the map server 12 and the map database 14. The map database 14 contains the image data of the information on the positional information on a map (coordinate information), for example, the LAT, and LONG, and the map information corresponding to the positional information. The image data of map information is constituted by two or more layered structures according to the scale. That is, like drawing in whole Japan, and drawing of all-prefectures level, the image data of two or more scales is prepared, and the local file name which is alike, respectively and specifies the image data is attached. Scale information and a local file are matched.

[0023] The map server 12 searches and acquires the image data (namely, local file) of map information which corresponds according to the assignment from a user terminal, directions, etc. from the map database 14, and transmits to a user terminal 1 through the Internet 5. Moreover, the map server 12 also

performs retrieval of map information, and transmission according to the demand from the WWW server 22.

[0024] The map information offer site 20 is a WWW site. WWW is a broader-based information system on the Internet which offers multimedia information, such as text, image information, and speech information, using a hypertext. A WWW server is a server on the Internet linked by WWW, and calls a WWW site the site which gives its service by WWW. The map information offer site 20 is equipped with the WWW server 22, the landmark database 24, the banner database 26, and the local file database 28.

[0025] The landmark database 24 has memorized the data to which correspondences with those positional information are indicated to be a certain specific address, a name of the station, and landmarks (a facility, an amusement center, an amusement park, store, etc.). Therefore, the WWW server 22 can specify the address corresponding to it, a name of the station, and a landmark from specific positional information by accessing the landmark database 24. Moreover, the positional information which corresponds from the specific address, a name of the station, a landmark name, etc. is also acquirable conversely.

[0026] The local file database 28 has memorized correspondence with an every place region file and positional information (coordinate information). Here, an "area" is the geographical partition of a specific location, and the local file is classified and set to two or more layered structures from a large partition to a subsection. The example of the hierarchical partition of a local file is shown in drawing 3 . In addition, the example of drawing 3 shows only the partition of the local file relevant to the circumference of the Kamata, Ota-ku, Tokyo station. In drawing 3 , "level" shows at least that on the hierarchy of an every place region file. In this example, level 1 is the top hierarchy and is the biggest partition. It corresponds to a small partition as it is set to level 2, level 3, and level 4. Although not shown in the example of drawing 3 , the local file belonging to level 1 has Kansai, a northeast, Hokuriku, etc. other than Kanto. Similarly, the local file of all-prefectures extent, such as Tokyo, Saitama, and Chiba, is included in level 2, and the local file of a division and cities, towns and villages extent is included in level 3. Level 4 is the finest partition and the local file of a city name and name-of-the-station extent is included. The above-mentioned map image data is prepared corresponding to this every place region file. That is, the map image of Kanto and Kansai is prepared corresponding to the local file "Kanto" of level 1, and "Kansai", and the image data of Ota-ku and Chiyoda-ku is prepared corresponding to the local file "Ota-ku" of level 3, and "Chiyoda-ku."

[0027] About the circumference of the Kamata, Ota-ku, Tokyo station illustrated here, the local file which corresponds in all the hierarchies from level 1 to level 4 is defined, and correspondence with the local file and positional information is memorized in the local file database 28. In addition, the local file of level 4 which corresponds depending on positional information may not exist. That is, although map information detailed about a station and the circumference of shopping quarter is prepared, generally in farmland and a forest, detailed map information is not prepared. therefore, the local (the case -- the level 3) file and its map image data of the corresponding level 4 may not exist in the positional information which shows such a location

[0028] The positional information (coordinate information) corresponding to the above-mentioned every place region file is memorized by the local file database 28. That is, the information of whenever [east longitude OO], thru/or whenever [OO] is memorized whenever [positional information / corresponding to an every place region file name /, for example, north latitude OO,], thru/or whenever [OO]. Therefore, if positional information is determined, the local file (namely, map image data) corresponding to the positional information can be specified by referring to the local file database 28. According to the example of drawing 3 R> 3, the local related file in each level can be specified by specifying the positional information near the Kamata station (north latitude, east longitude). In addition, as the approach of limitation of the positional information matched with an every place region file, a specific area can be specified by two or more polygonal LAT and LONG corresponding to top-most vertices, and this can be matched with a certain local file. Moreover, positional information can be specified by the approach of the area of radius OOkm centering on one certain point, and this can also be

matched with a certain local file.
[0029] The banner database 26 has memorized correspondence with an above-mentioned local file and the banner-advertising information (advertising information) corresponding to it. The example of the information in the banner database 26 is shown in drawing 4 . In addition, the information which also limited the example of drawing 4 around the Kamata station is shown. As shown in drawing 4 , an every place region file, the level of the local file, and correspondence of the banner-advertising information determined to the local file are memorized by the banner database 26. That is, an every place region file is chosen by the user, and the banner database 26 shows the banner-advertising information which should be displayed on coincidence, when corresponding map image data is displayed on a user terminal. Advertisement D is displayed when it was the example of drawing 4 , for example, Advertisement B is displayed on coincidence when a user displays the map information on Ota-ku (it corresponds to a local file "Ota-ku") on a user terminal by map communications service, and the map information on Kamata (it corresponds to a local file "Kamata") is displayed on a user terminal 1.
[0030] Banner advertising prepared corresponding to an every place region file is banner advertising which has the area and relation. Specifically, banner advertising relevant to a store, a facility, etc. which exist in banner advertising relevant to the industry of the area etc. and its area etc. is mentioned. As banner advertising relevant to the industry of an every place region etc., the specialty article of the area, the product by the major industry of the area, service, etc. are included, for example, banner advertising of a rahmen store etc. is mentioned to banner advertising of an apple, and a local file "Sapporo" to a local file "Aomori." Moreover, as banner advertising relevant to the store and facility which exist in the area, banner advertising, such as a restaurant in the area, a department store, recreation facilities, and a sport facility, is mentioned.
[0031] In this operation gestalt, banner advertising matched to an every place region file presupposes that it is one, and the local file name memorized in the banner database 26 and banner advertising decide to correspond to 1 to 1. If the positional information which has a user by carrying out like this is specified and a local corresponding file is specified, banner advertising displayed with the map information on the local file will be determined as one. Therefore, processing by the WWW server 22 can be simplified.
[0032] However, two or more advertisements corresponding to an every place region file are prepared, and it changes according to a time zone, and can display. For example, the correspondence in a database can be determined that banner advertising of the department store is displayed and, as for the business-hours band of a certain department store, the time zone after the operating termination will display the advertisement of another restaurant to a certain local file. Moreover, according to a season, a day of the week, etc., banner advertising corresponding to one local file can also be changed similarly. The offer company of the map communications service concerned determines matching with the local file in the banner database 26, and banner advertising according to a request of an advertiser. Moreover, when two or more advertising displays are prepared all over the screen displayed on a user terminal in map communications service, two or more banner advertising can be matched to an every place region, and two or more banner advertising can also be displayed on coincidence.
[0033] [2] Explain map information offer actuation, next map information offer actuation with reference to drawing 1 thru/or 6. Drawing 2 is a flow chart which shows offer actuation of map information, and drawing 5 **** drawing 6 is the example of the map display screen in each phase. Hereafter, the user of a user terminal 1 connects with a map information offer site, and it explains taking the case of the case where map information is acquired.
[0034] First, a user uses the WWW browser of a terminal 1 and specifies URL of a map information offer site (step S2). URL is address information which specifies the specific link place on WWW. This connects a terminal 1 to the WWW server 22 of the map information offer site 20 through the Internet 5.

[0035] Answering this, the WWW server 22 sends the HTML (Hypertext Markup Language) text of the homepage of a map information offer site to a terminal 1. A HTML text is the text file described in the language called HTML, and the information on preservation places, such as associated image

information and speech information, can be included. The WWW browser of a terminal 1 receives this HTML text, and displays it on a terminal 1 (step S4).

[0036] The example of the initial screen of the homepage concerned displayed on drawing 5 in this way is shown. In drawing 5 , there is a map display 30 in the center of a display screen, and map image data is displayed there. The banner-advertising display 40 is on the map display 30. In addition, in an initial screen, since assignment of the map information by the user is not performed, suppose that messages other than banner advertising by which a specific area and correlation are not made, or an advertisement etc. are displayed in the banner-advertising display 40.

[0037] The scale specification part 32 is immediately under the map display 30, and this shows the scale (scale) of the map currently displayed in the map display 30. Each carbon button in the scale specification part 32 (this example 11 steps) supports a different scale. In the example of drawing 5 , the display of a map is made by the largest (close to a left-hand side Japanese map mark) scale. If the conservative (close to "street") carbon button in the scale specification part 32 is clicked to expand the displayed map image, the small map image of a scale will be displayed.

[0038] The scrolling section 34 is displayed on the left-hand side of the scale specification part 32. The scrolling section 34 is used to display the periphery of the map by which it is indicated by current, and the arrow head turned in the eight directions centering on the current display position is displayed. For example, a user's click of the upward arrow head in the scrolling section 34 displays the map of the periphery of the location by which it is indicated by current located immediately north. That is, presenting of map information is changed so that the clicked location may take the lead in a display image.

[0039] On the bottom of the scale specification part 32, the input column 36 for specifying or inputting a location searching is displayed. The user as whom the carbon button of "an address list", "a station list", and "a landmark list" is displayed, and the candidate list of the address, a name of the station, and landmark names is displayed by clicking these can display the map image of the location on the left-hand side of the input column 36 by choosing a desired candidate out of them. Moreover, the input box of the address, a name of the station, and a landmark name is displayed on the right-hand side of the input column 36, and a user can do the direct input of the desired address, the name of the station, etc. using a keyboard. For example, if a user inputs the "Kamata station" in the name-of-the-station input box of the input column 36, as shown in drawing 6 R> 6, the map image centering on the Kamata station will be displayed in the map display 30. In addition, various special function carbon buttons are displayed on the right-hand side of the input column 36.

[0040] Where the homepage of a map information offer site is displayed like drawing 5 , a user specifies the destination which you want to display and inputs. This assignment may be performed by specifying a candidate from the list on the left-hand side of the input column 36, and may be performed in an input box by carrying out direct typing of a name of the station, the address, etc. In this way, the specified destination information is sent to the WWW server 22 through the Internet 5 from a terminal 1 (step S6). The scale information by which can come, simultaneously current selection is made is also sent to the WWW server 22.

[0041] The WWW server 22 acquires the positional information (coordinate information) corresponding to the destination concerned for this information with reference to reception and the landmark database 24. Moreover, based on the acquired positional information, the local file corresponding to the positional information concerned is specified with reference to the local file database 28. Next, with reference to the banner database 26, banner advertising corresponding to the local file concerned is specified.

[0042] If a user inputs the "Kamata station" into the input column 36 and retrieves the map information around the Kamata station now, the WWW server 22 acquires the positional information of the Kamata station, and specifies a local file "Kamata" with reference to the local file database 28 based on this. Here, when current positional information belongs to the local file of two or more level in the local file database 28, the advertisement corresponding to the lowest (the number of level is large) area of level is determined as banner advertising which should be displayed. In this example, it will correspond to all the local files of "Kanto", "Tokyo", "Ota-ku", and "Kamata" which the specified positional information

is the thing of the Kamata station, and are shown in drawing 3 . In this case, the WWW server 22 determines the lowest local file "Kamata" of level as a current area. When the specified positional information corresponds to two or more local files, banner advertising prepared about the smallest partition will have priority, and will be displayed by this processing. When a user specifies the Kamata station and retrieves map information, as banner information displayed on coincidence, the advertisement relevant to the Kamata station is more desirable than the advertisement about whole Ota-ku or whole Tokyo. Therefore, when positional information belongs to two or more areas, it constitutes so that the advertising information on the lowest area of level may be displayed preferentially.

[0043] On the other hand, although the positional information corresponds to the every place region file of "Kanto", "Tokyo", and "Ota-ku" when a user specifies other locations in Ota-ku (for example, residential street etc.), for example, a local corresponding file may not exist in level 4. In such a case, the WWW server 22 determines the advertisement C which specifies the local file corresponding to order from level low as mentioned above and which corresponds for the WWW server 22 to specify a local file "Ota-ku" with reference to the local file database 28 therefore, and refer to the banner database 26 further.

[0044] Moreover, when a user specifies it as "Ota-ku", "Tokyo", etc. using the input column, the local file of level which corresponds, respectively will be specified and the advertisement C related with it and Advertisement B will be displayed.

[0045] Now, if it returns to the example of the Kamata station, the WWW server 22 will determine the advertisement D corresponding to a local file "Kamata" with reference to the banner database 26 next. And the WWW server 22 creates a HTML text including the banner-advertising assignment information which shows the above-mentioned positional information and Advertisement D, and transmits to a terminal 1 (step S8). The banner-advertising assignment information which should be carried out call appearance from Server Name (namely, map server 12) which the terminal 1 which received it further should access, the local file name chosen according to the scale by which current selection is made, the sentence which should be displayed on a terminal 1, and the banner database 26 is included in this HTML text.

[0046] The WWW browser of a terminal 1 displays the sentence contained in reception and it in this HTML text. Moreover, information, such as a local file name, positional information, size information, and scale information, is sent to the map server 12 described in the HTML text concerned (step S10). The map server 12 accesses the map database 14, acquires the image data corresponding to the range determined using size information focusing on positional information among the image data of the local file specified by scale information and positional information, and transmits to a terminal 1 by making this into map image data (GIF data).

[0047] Moreover, the WWW browser of a terminal 1 accesses the banner database 26 at coincidence, acquires the banner-advertising image data corresponding to the banner-advertising assignment information described in the HTML text, and sends it to a user terminal (step S12).

[0048] A terminal 1 displays the map image data transmitted from the map server 12 on the display part specified in the HTML text to which it was previously transmitted from the WWW server 22. Moreover, the banner-advertising image data transmitted to coincidence from the banner database 26 is displayed in the banner-advertising display 40, as shown in drawing 6 (step S14). In this way, the map image data of the destination specified by a user is displayed in the map display 30 of a terminal 1, and banner advertising relevant to the area is displayed in the banner-advertising display 40.

[0049] In addition, when the destination is changed by the re-assignment to a user's input column 36, and reinput, based on the positional information after changing step S6 thru/or processing of S14 etc., renewal of a map and a banner-advertising display is performed repeatedly.

[0050] Moreover, where a map image is displayed, also when there are modification of a scale, modification of a display position, etc., processing transmits return, the positional information after modification, scale information, etc. to step S6 to the WWW server 22. Henceforth, the WWW server 22, the map server 12, and a terminal 1 perform same processing based on the information after modification, and make a change of a map and a banner-advertising display.

[0051] For example, when a user operates the scale specification part 32 and scale information is changed, the range of the map image data which the map file which the map server 12 should access is changed, or is transmitted to a terminal 1 among the same map files is changed. On the other hand, if a user clicks the location which is interested on the map displayed in the map display 30, the positional information of the location will be transmitted and the map server 12 will transmit the map image data centering on the location to a terminal 1. Consequently, the map in the map display 30 is changed into a display centering on the location which the user clicked.
[0052] Moreover, when positional information is changed in this way, the WWW server 22 judges whether modification of the positional information is accompanied by modification of a local file with reference to the local file database 28. When accompanied by modification of a local file, with reference to the banner database 26, the banner-advertising assignment information corresponding to the local file after modification is acquired. The rest transmits the banner-advertising assignment information after modification to a terminal 1 according to steps S12 and S14, acquires banner-advertising image data from the banner database 26, and displays it in the banner-advertising display 40.
[0053] In addition, in the above-mentioned explanation, although the map server 12 specified the map file directly by the file name, the map file of the map server 12 may be made to be built according to original administrative information. In that case, it replaces with specifying a map file name directly, and a map file is accessed using CGI (Common Gateway Interface) which achieves an interface with the program which moves on a WWW server and a server. For example, at step S10, the CGI name for a map display is sent to the map server 12.
[0054] As explained above, according to this invention, in addition to the map information on the location which the user specified himself and searched, in map communications service, the banner-advertising information relevant to the location is displayed. Therefore, a user can acquire automatically the advertising information which is related to a location with the present interest. Moreover, since an advertisement can be offered to the user who is more interested also as an advertiser, it is expectable that an advertisement effect of advertising increases.
[0055]
[Effect of the Invention] If a user displays the map information on desired on a terminal using the map system to offer information concerned according to invention given in claims 1 and 6 as explained above, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.
[0056] According to invention according to claim 2, the data storage configuration in a database is simplified and access is quickened.
[0057] According to invention according to claim 3, suitable advertising information can be offered according to the size of the area which the user chose.
[0058] According to invention given in claims 4 and 7, a user can see the advertising information relevant to the map information and coincidence which were searched on the same screen.
[0059] According to invention according to claim 5, an effective advertisement advertisement can be performed for every every place region.

[Translation done.]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the technique of offering the map information and advertising information which are accumulated in the database using the Internet.

[Translation done.]

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PRIOR ART

[Description of the Prior Art] Now, on the Internet which used Internet Protocol, various information is offered by the WWW (World Wide Web) server from all over the world, and a user can operate the terminal connected to the Internet and can acquire the information on desired by searching.
[0003] Although the data utility offered through such the Internet exists variously, there is map information retrieval display service as one of them. This is the service which can acquire the map information on desired and can be displayed on a terminal by having a map database and accessing the WWW server connected to the Internet. If a user inputs the address, the name of a place, a name of the station or various facility names, a store name, etc. from a terminal, specifically, the location and the map of the circumference of it will be displayed on a terminal as image information. Therefore, a user can recognize easily where the target station, a facility, etc. are with reference to the displayed map information.
[0004] On the other hand, the advertising information (it is hereafter called "banner advertising".) generally called a "banner" may be displayed on the homepage of not only a map information search service but the various WWW servers connected on the Internet, and other screens. To the company and individual who manage a WWW server, a customer (advertiser) pays ad rates, this displays an advertisement on the homepage, and an advertisement is displayed on the part of the arbitration on a screen. Such banner advertising is performed also in above-mentioned map information retrieval display service, for example, banner advertising is displayed near the map information in a display screen.
[0005] An example of the gestalt of the banner-advertising display performed in map information retrieval display service is as follows. An advertising display is prepared all over a screen including the map information displayed on a user terminal, and a certain banner advertising is displayed. If a user shows an interest to the advertisement and clicks an advertising display, URL (Uniform Resource Locator) of the homepage about the advertising contents concerned accumulated in the WWW server of map information retrieval display service or the WWW server about an advertising display will be specified, and the homepage which shows the detail of the banner advertising will be displayed on a terminal.

[Translation done.]

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EFFECT OF THE INVENTION

[Effect of the Invention] If a user displays the map information on desired on a terminal using the map system to offer information concerned according to invention given in claims 1 and 6 as explained above, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.
[0056] According to invention according to claim 2, the data storage configuration in a database is simplified and access is quickened.
[0057] According to invention according to claim 3, suitable advertising information can be offered according to the size of the area which the user chose.
[0058] According to invention given in claims 4 and 7, a user can see the advertising information relevant to the map information and coincidence which were searched on the same screen.
[0059] According to invention according to claim 5, an effective advertisement advertisement can be performed for every every place region.

[Translation done.]

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, it is unrelated to the map information on which the user displayed the contents of banner advertising by retrieval of arbitration in this case. Therefore, unless a user shows interest to the advertisement, clicks an advertising display and displays the homepage of the banner advertising positively himself, an advertisement effect of advertising is seldom expectable. That is, if it has the map information or the area where the banner advertising was displayed, and relation when displaying banner advertising on a display screen including map information, the value of seeing the advertisement also for a user will increase, but a user's interest will become low if unrelated.
[0007] This invention is made in view of the above point, and the technical problem tends to draw a user's interest with map information, and is to offer the system which enables presenting of the advertising information which can expect a high propaganda effect.

[Translation done.]

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MEANS

[Means for Solving the Problem] In order to solve the above-mentioned technical problem, invention according to claim 1 In the map system to offer information which provides a terminal with the map information accumulated in the map database through a network The advertising information database which memorizes correspondence with the positional information for specifying the area on geography, and the advertising information which has the area concerned and relation, A map information transmitting means to acquire the map information corresponding to the positional information specified by a user from said map database, and to transmit to said terminal, With reference to said advertising information database, the advertising information corresponding to said positional information is specified, and it constitutes so that it may have an advertising information transmitting means to transmit to said terminal.
[0009] According to the map system to offer information constituted as mentioned above, correspondence with the positional information for specifying the area on geography and the advertising information which has the area concerned and relation is memorized by the advertising information database. If a user specifies the positional information of a desired location from a terminal, a map information transmitting means will acquire the map information corresponding to the positional information specified by a user from said map database, and will transmit it to said terminal. Moreover, with reference to said advertising information database, an advertising information transmitting means specifies the advertising information corresponding to said positional information, and transmits it to said terminal. A terminal displays the map information and advertising information which were transmitted.
[0010] Therefore, if a user displays the map information on desired on a terminal using the map system to offer information concerned, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.
[0011] In a map system to offer information according to claim 1, invention according to claim 2 constitutes said advertising information database so that it may have the local database which remembered correspondence relation with said positional information to be the local file which shows the area on said geography. Therefore, the data storage configuration in a database is simplified and access is quickened.
[0012] Said local file was classified into two or more hierarchies according to the size of the area where invention according to claim 3 corresponds in a map system to offer information according to claim 2, and said advertising information database has memorized the advertising information which corresponds for every area file belonging to said two or more hierarchies. Therefore, suitable advertising information can be offered according to the size of the area which the user chose.
[0013] In a map system to offer information according to claim 1 to 3, invention according to claim 4 constitutes said advertising information transmitting means so that the information which directs to display said advertising information on the same screen as said map information on said terminal may be transmitted to said terminal. Therefore, a user can see the advertising information relevant to the map

information and coincidence which were searched on the same screen.
[0014] In a map system to offer information according to claim 1 to 4, invention according to claim 5 constitutes the advertising information memorized by said advertising information database so that it may be either of the advertising information relevant to the advertising information relevant to the industry of said area and the store which exists in said area, and a facility. Therefore, an effective advertisement advertisement can be performed for every every place region.
[0015] In the approach of offering map information to a terminal through a network from a map system to offer information equipped with the advertising information database which memorizes the map database and advertising information that invention according to claim 6 accumulated map information The process which specifies the positional information of a desired location in said terminal, and the process which acquires the map information corresponding to the positional information specified by a user from said map database, and is transmitted to said terminal, With reference to said advertising information database, the advertising information which has relation is specified as the area corresponding to said positional information, and it constitutes so that it may have the process transmitted to said terminal, and the process which receives said map information and said advertising information, and is displayed on said terminal.
[0016] According to the approach constituted as mentioned above, if a user specifies the positional information of a desired location in a terminal, the map information corresponding to the positional information specified by a user will be acquired from said map database, and it will be transmitted to said terminal. Next, the advertising information which has the area and relation corresponding to said positional information with reference to said advertising information database is specified, and it is transmitted to said terminal. And a terminal receives and displays said map information and said advertising information.
[0017] Therefore, if a user displays the map information on desired on a terminal using the map system to offer information concerned, the advertising information relevant to the displayed area will be displayed automatically. Therefore, a user can offer the advertisement relevant to an interested area, and it can be expected that a propaganda effect will increase.
[0018] Said display process is constituted so that invention according to claim 7 may display said map information and said advertising information on the same screen in an approach according to claim 6. Therefore, it can follow and a user can see the advertising information relevant to the map information and coincidence which were searched on the same screen.
[0019]
[Embodiment of the Invention] In case this invention displays banner advertising with the map information acquired by map communications service, it is characterized by displaying automatically banner advertising relevant to the area of the map information currently then displayed. Since the area which the user specified himself and displayed in map communications service is an area in which the user is interested, if banner advertising which has relation is displayed on the area, a high propaganda effect is expectable. Hereafter, the gestalt of suitable operation of this invention is explained with reference to a drawing.
[0020] [1] The rough configuration of the map system to offer information applied to the operation gestalt of this invention at system configuration drawing 1 is shown. In drawing 1 , the map database center 10 and the map information offer site 20 are connected to the Internet 5. Furthermore, the user terminal 1 is connected to the Internet 5.
[0021] A user terminal 1 can receive service of WWW by using the application program called a WWW browser. In the example of drawing 1 , a user terminal 1 is connected to the map information offer site 20 using a WWW browser, and it becomes possible by perusing the homepage to receive offer service of map information.
[0022] The map database center 10 is a center for carrying out map communications service on the Internet, and is equipped with the map server 12 and the map database 14. The map database 14 contains the image data of the information on the positional information on a map (coordinate information), for example, the LAT, and LONG, and the map information corresponding to the positional information.

The image data of map information is constituted by two or more layered structures according to the scale. That is, like drawing in whole Japan, and drawing of all-prefectures level, the image data of two or more scales is prepared, and the local file name which is alike, respectively and specifies the image data is attached. Scale information and a local file are matched.

[0023] The map server 12 searches and acquires the image data (namely, local file) of map information which corresponds according to the assignment from a user terminal, directions, etc. from the map database 14, and transmits to a user terminal 1 through the Internet 5. Moreover, the map server 12 also performs retrieval of map information, and transmission according to the demand from the WWW server 22.

[0024] The map information offer site 20 is a WWW site. WWW is a broader-based information system on the Internet which offers multimedia information, such as text, image information, and speech information, using a hypertext. A WWW server is a server on the Internet linked by WWW, and calls a WWW site the site which gives its service by WWW. The map information offer site 20 is equipped with the WWW server 22, the landmark database 24, the banner database 26, and the local file database 28.

[0025] The landmark database 24 has memorized the data to which correspondences with those positional information are indicated to be a certain specific address, a name of the station, and landmarks (a facility, an amusement center, an amusement park, store, etc.). Therefore, the WWW server 22 can specify the address corresponding to it, a name of the station, and a landmark from specific positional information by accessing the landmark database 24. Moreover, the positional information which corresponds from the specific address, a name of the station, a landmark name, etc. is also acquirable conversely.

[0026] The local file database 28 has memorized correspondence with an every place region file and positional information (coordinate information). Here, an "area" is the geographical partition of a specific location, and the local file is classified and set to two or more layered structures from a large partition to a subsection. The example of the hierarchical partition of a local file is shown in drawing 3 . In addition, the example of drawing 3 shows only the partition of the local file relevant to the circumference of the Kamata, Ota-ku, Tokyo station. In drawing 3 , "level" shows at least that on the hierarchy of an every place region file. In this example, level 1 is the top hierarchy and is the biggest partition. It corresponds to a small partition as it is set to level 2, level 3, and level 4. Although not shown in the example of drawing 3 , the local file belonging to level 1 has Kansai, a northeast, Hokuriku, etc. other than Kanto. Similarly, the local file of all-prefectures extent, such as Tokyo, Saitama, and Chiba, is included in level 2, and the local file of a division and cities, towns and villages extent is included in level 3. Level 4 is the finest partition and the local file of a city name and name-of-the-station extent is included. The above-mentioned map image data is prepared corresponding to this every place region file. That is, the map image of Kanto and Kansai is prepared corresponding to the local file "Kanto" of level 1, and "Kansai", and the image data of Ota-ku and Chiyoda-ku is prepared corresponding to the local file "Ota-ku" of level 3, and "Chiyoda-ku."

[0027] About the circumference of the Kamata, Ota-ku, Tokyo station illustrated here, the local file which corresponds in all the hierarchies from level 1 to level 4 is defined, and correspondence with the local file and positional information is memorized in the local file database 28. In addition, the local file of level 4 which corresponds depending on positional information may not exist. That is, although map information detailed about a station and the circumference of shopping quarter is prepared, generally in farmland and a forest, detailed map information is not prepared. therefore, the local (the case -- the level 3) file and its map image data of the corresponding level 4 may not exist in the positional information which shows such a location

[0028] The positional information (coordinate information) corresponding to the above-mentioned every place region file is memorized by the local file database 28. That is, the information of whenever [east longitude OO], thru/or whenever [OO] is memorized whenever [positional information / corresponding to an every place region file name /, for example, north latitude OO,], thru/or whenever [OO]. Therefore, if positional information is determined, the local file (namely, map image data)

corresponding to the positional information can be specified by referring to the local file database 28. According to the example of drawing 3 R> 3, the local related file in each level can be specified by specifying the positional information near the Kamata station (north latitude, east longitude). In addition, as the approach of limitation of the positional information matched with an every place region file, a specific area can be specified by two or more polygonal LAT and LONG corresponding to top-most vertices, and this can be matched with a certain local file. Moreover, positional information can be specified by the approach of the area of radius OOkm centering on one certain point, and this can also be matched with a certain local file.

[0029] The banner database 26 has memorized correspondence with an above-mentioned local file and the banner-advertising information (advertising information) corresponding to it. The example of the information in the banner database 26 is shown in drawing 4 . In addition, the information which also limited the example of drawing 4 around the Kamata station is shown. As shown in drawing 4 , an every place region file, the level of the local file, and correspondence of the banner-advertising information determined to the local file are memorized by the banner database 26. That is, an every place region file is chosen by the user, and the banner database 26 shows the banner-advertising information which should be displayed on coincidence, when corresponding map image data is displayed on a user terminal. Advertisement D is displayed when it was the example of drawing 4 , for example, Advertisement B is displayed on coincidence when a user displays the map information on Ota-ku (it corresponds to a local file "Ota-ku") on a user terminal by map communications service, and the map information on Kamata (it corresponds to a local file "Kamata") is displayed on a user terminal 1.

[0030] Banner advertising prepared corresponding to an every place region file is banner advertising which has the area and relation. Specifically, banner advertising relevant to a store, a facility, etc. which exist in banner advertising relevant to the industry of the area etc. and its area etc. is mentioned. As banner advertising relevant to the industry of an every place region etc., the specialty article of the area, the product by the major industry of the area, service, etc. are included, for example, banner advertising of a rahmen store etc. is mentioned to banner advertising of an apple, and a local file "Sapporo" to a local file "Aomori." Moreover, as banner advertising relevant to the store and facility which exist in the area, banner advertising, such as a restaurant in the area, a department store, recreation facilities, and a sport facility, is mentioned.

[0031] In this operation gestalt, banner advertising matched to an every place region file presupposes that it is one, and the local file name memorized in the banner database 26 and banner advertising decide to correspond to 1 to 1. If the positional information which has a user by carrying out like this is specified and a local corresponding file is specified, banner advertising displayed with the map information on the local file will be determined as one. Therefore, processing by the WWW server 22 can be simplified.

[0032] However, two or more advertisements corresponding to an every place region file are prepared, and it changes according to a time zone, and can display. For example, the correspondence in a database can be determined that banner advertising of the department store is displayed and, as for the business-hours band of a certain department store, the time zone after the operating termination will display the advertisement of another restaurant to a certain local file. Moreover, according to a season, a day of the week, etc., banner advertising corresponding to one local file can also be changed similarly. The offer company of the map communications service concerned determines matching with the local file in the banner database 26, and banner advertising according to a request of an advertiser. Moreover, when two or more advertising displays are prepared all over the screen displayed on a user terminal in map communications service, two or more banner advertising can be matched to an every place region, and two or more banner advertising can also be displayed on coincidence.

[0033] [2] Explain map information offer actuation, next map information offer actuation with reference to drawing 1 thru/or 6. Drawing 2 is a flow chart which shows offer actuation of map information, and drawing 5 **** drawing 6 is the example of the map display screen in each phase. Hereafter, the user of a user terminal 1 connects with a map information offer site, and it explains taking the case of the case where map information is acquired.

[0034] First, a user uses the WWW browser of a terminal 1 and specifies URL of a map information offer site (step S2). URL is address information which specifies the specific link place on WWW. This connects a terminal 1 to the WWW server 22 of the map information offer site 20 through the Internet 5.

[0035] Answering this, the WWW server 22 sends the HTML (Hypertext Markup Language) text of the homepage of a map information offer site to a terminal 1. A HTML text is the text file described in the language called HTML, and the information on preservation places, such as associated image information and speech information, can be included. The WWW browser of a terminal 1 receives this HTML text, and displays it on a terminal 1 (step S4).
[0036] The example of the initial screen of the homepage concerned displayed on drawing 5 in this way is shown. In drawing 5 , there is a map display 30 in the center of a display screen, and map image data is displayed there. The banner-advertising display 40 is on the map display 30. In addition, in an initial screen, since assignment of the map information by the user is not performed, suppose that messages other than banner advertising by which a specific area and correlation are not made, or an advertisement etc. are displayed in the banner-advertising display 40.
[0037] The scale specification part 32 is immediately under the map display 30, and this shows the scale (scale) of the map currently displayed in the map display 30. Each carbon button in the scale specification part 32 (this example 11 steps) supports a different scale. In the example of drawing 5 , the display of a map is made by the largest (close to a left-hand side Japanese map mark) scale. If the conservative (close to "street") carbon button in the scale specification part 32 is clicked to expand the displayed map image, the small map image of a scale will be displayed.
[0038] The scrolling section 34 is displayed on the left-hand side of the scale specification part 32. The scrolling section 34 is used to display the periphery of the map by which it is indicated by current, and the arrow head turned in the eight directions centering on the current display position is displayed. For example, a user's click of the upward arrow head in the scrolling section 34 displays the map of the periphery of the location by which it is indicated by current located immediately north. That is, presenting of map information is changed so that the clicked location may take the lead in a display image.
[0039] On the bottom of the scale specification part 32, the input column 36 for specifying or inputting a location searching is displayed. The user as whom the carbon button of "an address list", "a station list", and "a landmark list" is displayed, and the candidate list of the address, a name of the station, and landmark names is displayed by clicking these can display the map image of the location on the left-hand side of the input column 36 by choosing a desired candidate out of them. Moreover, the input box of the address, a name of the station, and a landmark name is displayed on the right-hand side of the input column 36, and a user can do the direct input of the desired address, the name of the station, etc. using a keyboard. For example, if a user inputs the "Kamata station" in the name-of-the-station input box of the input column 36, as shown in drawing 6 R> 6, the map image centering on the Kamata station will be displayed in the map display 30. In addition, various special function carbon buttons are displayed on the right-hand side of the input column 36.
[0040] Where the homepage of a map information offer site is displayed like drawing 5 , a user specifies the destination which you want to display and inputs. This assignment may be performed by specifying a candidate from the list on the left-hand side of the input column 36, and may be performed in an input box by carrying out direct typing of a name of the station, the address, etc. In this way, the specified destination information is sent to the WWW server 22 through the Internet 5 from a terminal 1 (step S6). The scale information by which can come, simultaneously current selection is made is also sent to the WWW server 22.
[0041] The WWW server 22 acquires the positional information (coordinate information) corresponding to the destination concerned for this information with reference to reception and the landmark database 24. Moreover, based on the acquired positional information, the local file corresponding to the positional information concerned is specified with reference to the local file database 28. Next, with reference to the banner database 26, banner advertising corresponding to the local file concerned is specified.

[0042] If a user inputs the "Kamata station" into the input column 36 and retrieves the map information around the Kamata station now, the WWW server 22 acquires the positional information of the Kamata station, and specifies a local file "Kamata" with reference to the local file database 28 based on this. Here, when current positional information belongs to the local file of two or more level in the local file database 28, the advertisement corresponding to the lowest (the number of level is large) area of level is determined as banner advertising which should be displayed. In this example, it will correspond to all the local files of "Kanto", "Tokyo", "Ota-ku", and "Kamata" which the specified positional information is the thing of the Kamata station, and are shown in drawing 3 . In this case, the WWW server 22 determines the lowest local file "Kamata" of level as a current area. When the specified positional information corresponds to two or more local files, banner advertising prepared about the smallest partition will have priority, and will be displayed by this processing. When a user specifies the Kamata station and retrieves map information, as banner information displayed on coincidence, the advertisement relevant to the Kamata station is more desirable than the advertisement about whole Ota-ku or whole Tokyo. Therefore, when positional information belongs to two or more areas, it constitutes so that the advertising information on the lowest area of level may be displayed preferentially.

[0043] On the other hand, although the positional information corresponds to the every place region file of "Kanto", "Tokyo", and "Ota-ku" when a user specifies other locations in Ota-ku (for example, residential street etc.), for example, a local corresponding file may not exist in level 4. In such a case, the WWW server 22 determines the advertisement C which specifies the local file corresponding to order from level low as mentioned above and which corresponds for the WWW server 22 to specify a local file "Ota-ku" with reference to the local file database 28 therefore, and refer to the banner database 26 further.

[0044] Moreover, when a user specifies it as "Ota-ku", "Tokyo", etc. using the input column, the local file of level which corresponds, respectively will be specified and the advertisement C related with it and Advertisement B will be displayed.

[0045] Now, if it returns to the example of the Kamata station, the WWW server 22 will determine the advertisement D corresponding to a local file "Kamata" with reference to the banner database 26 next. And the WWW server 22 creates a HTML text including the banner-advertising assignment information which shows the above-mentioned positional information and Advertisement D, and transmits to a terminal 1 (step S8). The banner-advertising assignment information which should be carried out call appearance from Server Name (namely, map server 12) which the terminal 1 which received it further should access, the local file name chosen according to the scale by which current selection is made, the sentence which should be displayed on a terminal 1, and the banner database 26 is included in this HTML text.

[0046] The WWW browser of a terminal 1 displays the sentence contained in reception and it in this HTML text. Moreover, information, such as a local file name, positional information, size information, and scale information, is sent to the map server 12 described in the HTML text concerned (step S10). The map server 12 accesses the map database 14, acquires the image data corresponding to the range determined using size information focusing on positional information among the image data of the local file specified by scale information and positional information, and transmits to a terminal 1 by making this into map image data (GIF data).

[0047] Moreover, the WWW browser of a terminal 1 accesses the banner database 26 at coincidence, acquires the banner-advertising image data corresponding to the banner-advertising assignment information described in the HTML text, and sends it to a user terminal (step S12).

[0048] A terminal 1 displays the map image data transmitted from the map server 12 on the display part specified in the HTML text to which it was previously transmitted from the WWW server 22. Moreover, the banner-advertising image data transmitted to coincidence from the banner database 26 is displayed in the banner-advertising display 40, as shown in drawing 6 (step S14). In this way, the map image data of the destination specified by a user is displayed in the map display 30 of a terminal 1, and banner advertising relevant to the area is displayed in the banner-advertising display 40.

[0049] In addition, when the destination is changed by the re-assignment to a user's input column 36,

and reinput, based on the positional information after changing step S6 thru/or processing of S14 etc., renewal of a map and a banner-advertising display is performed repeatedly.

[0050] Moreover, where a map image is displayed, also when there are modification of a scale, modification of a display position, etc., processing transmits return, the positional information after modification, scale information, etc. to step S6 to the WWW server 22. Henceforth, the WWW server 22, the map server 12, and a terminal 1 perform same processing based on the information after modification, and make a change of a map and a banner-advertising display.

[0051] For example, when a user operates the scale specification part 32 and scale information is changed, the range of the map image data which the map file which the map server 12 should access is changed, or is transmitted to a terminal 1 among the same map files is changed. On the other hand, if a user clicks the location which is interested on the map displayed in the map display 30, the positional information of the location will be transmitted and the map server 12 will transmit the map image data centering on the location to a terminal 1. Consequently, the map in the map display 30 is changed into a display centering on the location which the user clicked.

[0052] Moreover, when positional information is changed in this way, the WWW server 22 judges whether modification of the positional information is accompanied by modification of a local file with reference to the local file database 28. When accompanied by modification of a local file, with reference to the banner database 26, the banner-advertising assignment information corresponding to the local file after modification is acquired. The rest transmits the banner-advertising assignment information after modification to a terminal 1 according to steps S12 and S14, acquires banner-advertising image data from the banner database 26, and displays it in the banner-advertising display 40.

[0053] In addition, in the above-mentioned explanation, although the map server 12 specified the map file directly by the file name, the map file of the map server 12 may be made to be built according to original administrative information. In that case, it replaces with specifying a map file name directly, and a map file is accessed using CGI (Common Gateway Interface) which achieves an interface with the program which moves on a WWW server and a server. For example, at step S10, the CGI name for a map display is sent to the map server 12.

[0054] As explained above, according to this invention, in addition to the map information on the location which the user specified himself and searched, in map communications service, the banner-advertising information relevant to the location is displayed. Therefore, a user can acquire automatically the advertising information which is related to a location with the present interest. Moreover, since an advertisement can be offered to the user who is more interested also as an advertiser, it is expectable that an advertisement effect of advertising increases.

[Translation done.]

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1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] It is the block section which shows the rough configuration of the electronic mail system concerning the operation gestalt of this invention.
[Drawing 2] It is drawing showing the example of stored data in a local file.
[Drawing 3] It is drawing showing the example of stored data in a banner database.
[Drawing 4] It is the flow chart which shows offer actuation of map information.
[Drawing 5] It is drawing showing the example of the display screen of a map information offer site.
[Drawing 6] It is drawing showing other examples of the display screen of a map information offer site.
[Description of Notations]
1 -- Terminal
5 -- Internet
10 -- Map database center
12 -- Map server
14 -- Map database
20 -- Map information offer site
22 -- WWW server
24 -- Landmark database
26 -- Banner database
28 -- Local file database
30 -- Map display
32 -- Scale specification part
34 -- Scrolling section
36 -- The input column
40 -- Banner-advertising display

[Translation done.]

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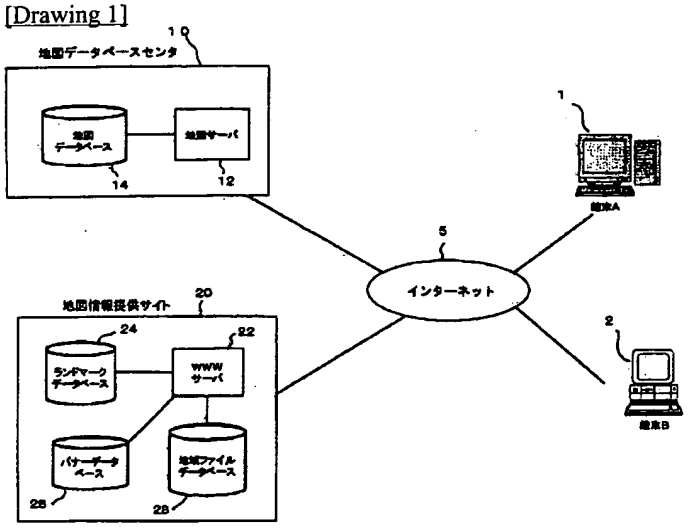
DRAWINGS

[Drawing 1]



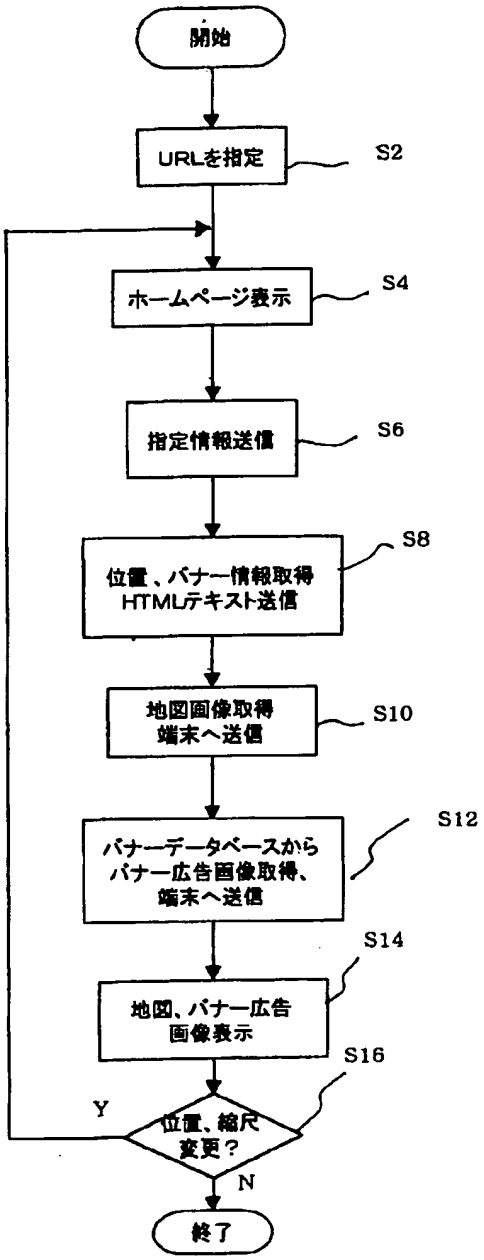
[Drawing 3]

レベル	地域ファイル	位置情報
1	関東	北緯○○－○○度、東経○○－○○度
2	東京	北緯○○－○○度、東経○○－○○度
3	大田区	北緯○○－○○度、東経○○－○○度
4	蒲田	北緯○○度、東経○○度から半径△ｋｍ以内

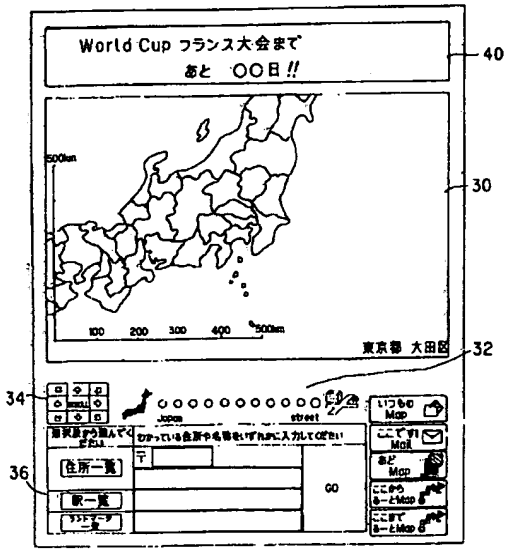
[Drawing 4]

レベル	地域ファイル	バナー広告
1	関東	広告A
2	東京	広告B
3	大田区	広告C
4	蒲田	広告D

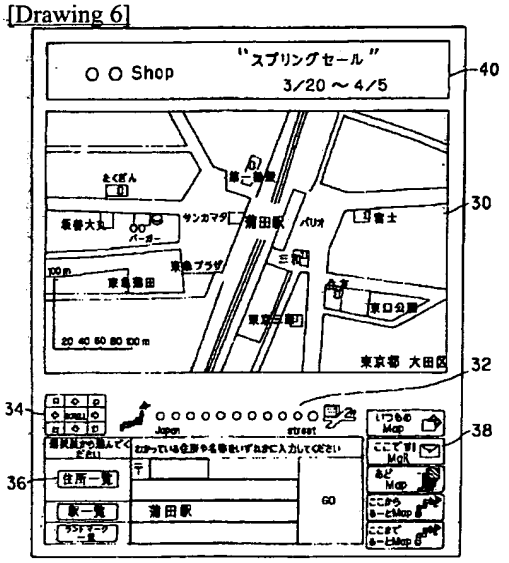
[Drawing 2]


開始
URLを指定
S2
ホームページ表示
S4
指定情報送信
S6
位置、バナー情報取得
HTMLテキスト送信
S8
地図画像取得
端末へ送信
S10
バナーデータベースから
バナー広告画像取得、
端末へ送信
S12
地図、バナー広告
画像表示
S14
位置、縮尺
変更？
S16
Y
N
終了

[Drawing 5]



[Drawing 6]



[Translation done.]